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W. Martin Johnson

The
W. MARTIN JOHNSON
SCHOOL OF ART

ELEMENTARY INSTRUCTION
IN COLOR, PERSPECTIVE,
LIGHTS AND SHADOWS, PEN
DRAWING AND COMPOSITION.

BY W. MARTIN JOHNSON

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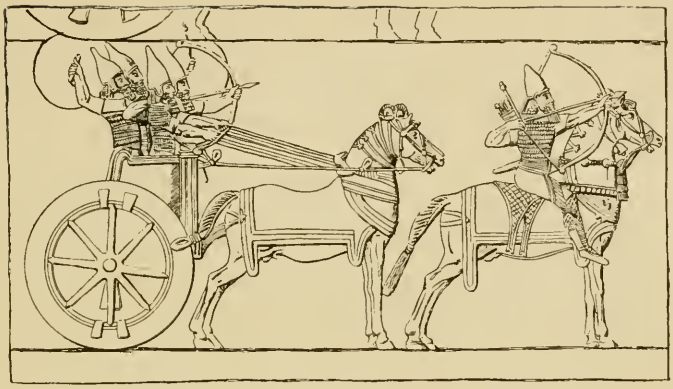


Assyrian War Chariot. 3000 B. C.

FOREWORD

Many people are inclined to invest Art with mysticism and to approach it with reverence and awe, as if its secrets were to be revealed only to the inspired. We look upon the old masters as transcendental geniuses, but it should be remembered at the same time that they were men absorbed in their work, who strove with marvelous industry. The idea that an artist is born an artist is a fallacy. One might as well claim that a stenographer is born a stenographer. If any one thinks himself a born artist he is the victim of a delusion. While a taste and predilection for it are essential to success in any profession, art is the result of education, plus industry and concentration. Education may be gained in the home as well as within a school, and a knowledge of the principles of color, light and shade, form and design may be learned as readily as any trade, through a helpful guidance. " If one can write, one can draw " is a truism.

In this school I have not only considered that side of Art which makes for culture and the broadening of the powers of perception and appreciation, but Art as a means of livelihood, an occupation in which there is a joy in the doing of things.

It is to those who have not the time or money to go to an academy that I want to appeal. I have simplified the teaching of drawing, painting and designing and place these crafts upon the same matter-of-fact basis as other callings which engage the brain and brawn of men and women.

W. MARTIN JOHNSON.

"There is no Art so divine as that of reaching and quickening other minds."

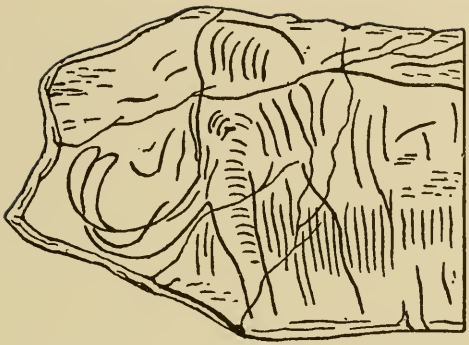
—*CHANNING.*

BERLIN GALLERY

"THE MAN WITH THE PINKS"

By Jan van Eyck (1382-1441)

"One of the earliest if not the first portrait painted in oil"



Sketch of Mammoth, on Piece of Ivory—Prehistoric

ART OF EARLY TIMES

IN GOING back to the very beginnings of art, we find that primitive peoples made rude drawings of the things that were important to them in their lives, and it is to be noted that their representations of animals are more often lifelike than those of human beings, which seems good evidence that animal life was the more interesting to them.

The wall paintings of the Egyptians are but diagrams, the artists rarely attempting portraits, because there was little incentive for them to observe individual character. Their kings and queens were remote beings, endowed by the priesthood with godlike attributes, and naturalistic drawing was not encouraged because it might have dissipated the mysticism with which the priests held control over the masses. However, some things were studied carefully. The lotus is always beautifully expressed, because the flower had a

peculiar significance, not only by reason of its color and form, but it was a sacred emblem and the symbol of happiness.

Not until the Thirteenth century of the Christian era do we note any quickening of the artistic perceptions. Cimabué was the first artist to draw figures

From a Mural Painting in Thebes

in action, and Giotto, his pupil, to give them light and shade. Leonardo da Vinci (1452-1519) ventured to work entirely from nature, and his notes and sketches fill thirteen massive volumes. But until the genius of Michelangelo blazed forth art had remained in swaddling clothes, timorous and groping for the light, for not since the days of Greek sculpture had any one dared to realize the beauty of the human figure, undraped, as nature made it. To Michelangelo it meant the very essence of all art. To him the nude symbolized force, power, profundity. With the courage that Michelangelo's example awakened, other artists soon

LOUVRE, PARIS

"MONA LISA"

By Leonardo da Vinci (1452-1519)

"The most marvelous of all portraits, ancient or modern"

began to search for truth, and from this period the modern development of art may be properly said to date.

As "form" dominated Florentine art, so "color" is the distinctive element of the Venetian School. Its greatest master, Titian, rubbed and thumbed his pigments in the effort to realize his marvelous conceptions of color, and his method of work has been the wonder and despair of modern painters. So each step in the progress toward adequate artistic expression might be uncovered from the rubbish of ages, and technical skill be shown to have grown simultaneously with the faculty of seeing and comprehending nature's beauty.

Raphael the Umbrian was preeminent in some qualities; Albrecht Dürer the German, in others; Velasquez the Spaniard, Rubens the Fleming, Rembrandt the Dutchman—each has taught us something. What they discovered pertaining to the mechanical side of art need not be sought for again. We can profit by their experiments. The van Eycks first painted with oil, for instance, and this fact is of interest, but their work has not the freedom of handling attained by later masters when the process was fully developed.

However, one learns gradually to discriminate between good pictures and pictures valuable chiefly as mile-stones marking the epochs in art history. By studying the masterpieces we appreciate that the artists went to nature for their inspiration, and that they must have had the power of seeing. No two people see things exactly in the same way, and we are led, therefore, to conclude that it is the individual point of view and the clearness with which truth is

SISTINE CHAPEL, VATICAN, ROME

"THE LAST JUDGMENT"

By Michelangelo (1475-1564)

"The largest and most comprehensive picture ever painted. It is fifty-four feet six inches in height and forty-three feet eight inches in width"

perceived which accounts for the difference between artistic productions. In art, then, there must be, first, the impulse, born of surplus energy, when man is relieved from the necessity of supplying his material needs; next the perception and expression of form and the arrangement of shapes, and finally, the desire for truth to give character and realism. Art is seen to be a spontaneous exercise of human energy, stimulated by the inclination for pleasure, and controlled by the regulating principle of order. It is primarily manifest in personal adornment, followed by the making of permanent images to be used as a means of communication or to record history. Religion utilized the art of painting for her purposes of teaching. The festal scenes of the Middle Ages inspired many paintings, but whatever the purpose of expression it always indicates the temperament and characteristics of the people among whom it is conceived. For example, sculpture was developed to its highest degree of perfection in ancient Greece, for there sports and pastimes produced the ideal human figure—a vital thing in Greek civilization—and the sculptors only followed a native instinct when they modeled their heroes, gods and goddesses. Their love for beautiful form was the impetus which taught them its proportions.

As pictures are intended to reproduce the visual impressions we receive from the other arts and from nature at large, painting has to do with the representation of mass, contour, texture and color, but these characteristics can only be adequately rendered by him who has first learned to see.

THE ACADEMY, VENICE

"THE ASSUMPTION"

By Titian (1477-1576)

"One of the most grandly impressive of the world's great pictures. In it Venetian art reaches its climax"

SIGHT

While we look at objects with both eyes, few persons realize the importance of having two organs of sight. To be able to see around things, to "feel" that there is space between two objects in the same line of vision, one further away than the other, is a wise provision of nature. The image seen with the right eye and the one seen with the left eye are combined in the brain to give us the effect of substance and reality. Close one eye and everything appears thin, as in a photograph. Objects look as if they were against air, not in it, as we should see them with both eyes open. Consequently, the copying of photographs, reproductions of colored studies, diagrams, etc., is of no value whatever to the student, as he must go, eventually, to nature, and learn to perceive her subtle effects for himself. The mere act of drawing and painting is not necessarily art.

The hand of a blind man can be trained to use a pen, but the artist must be able to "see." It is not eye vision so much that needs cultivation, but the intellectual processes which analyze and record the impressions received from the eyes.

The power to appreciate nature is supposedly an inborn faculty which, unless notably conspicuous, is not valued highly. All minds possess it, however, and, like any physical attribute, it is capable of development. The teaching of a pupil to "see" is the fundamental idea in this course of study. Rules and formulæ stifle spontaneity, and it is doubtful if there are any which can be helpful in their application. To so train the faculties that the quality of a color, the

relationship of lights and shadows, the contrast between an object and its surroundings, can all be accurately determined, is to learn the meaning of truth. But truth, artistically speaking, is not a photographic reproduction of nature. While the artisan strives to duplicate his pattern and make a good copy, the artist understands truth to have a greater significance. He knows that nature is not altogether beautiful. He knows that it is necessary to select the parts essential to his purpose and that the quality of his art depends upon his power to choose, omit, combine and enhance effects by harmonious surroundings, and accentuate character. Truth is observed in all that the artist undertakes, but it must be subservient to the artistic aim. Unless the imitation of nature results in the beautiful, such imitation is not worth while.

The draughtsman who draws with precision that which is set before him has learned to use his tools, but if he secures nothing more than a likeness of the model he does not possess the deeper insight required in art, the ability which lifts the artist to a higher plane. Our eyes warn us of approaching danger; they tell us that food is upon the table, that it rains, that the sun shines, and the average person is content with this limited vision. It answers for material needs. But the astronomer discovers stars in the sky, the physician detects the symptoms of disease, the Indian sees a footprint, all imperceptible to the unskilled.

The great teachers of art will tell you that little more can be done than direct the attention of the pupil to the model and point out to him the qualities to look for. The shriveled herring, the bunch of carrots, the wooden platter, are not interesting ordinarily, but in a

ROYAL GALLERY, DRESDEN

"THE SISTINE MADONNA"

By Raphael (1483-1520)

"The apex of religious art; the best easel picture in the world"

masterly painting of these humble things an unexpected beauty of color is revealed. The effects were not invented by the artist, but he has translated the truth to bring it within the comprehension of the uncultured. Certain characteristics have been emphasized, others have been modified or left out altogether to enhance the interest. We learn from this picture that beauty is not confined to gorgeous sunsets, but is all about us, even in the commonplace, awaiting recognition.

The art patron who exhibits his masterpieces to the public is a benefactor. He stimulates an appreciation of the beautiful in nature. He teaches people to see the glorious panoply spread before them, undreamed of until the spark of perception is kindled. In Europe, with its older civilization and the greater privileges afforded the people of visiting the galleries of art, the masses understand better than we the culture and enjoyment to be gained from looking at good pictures. In this country our time has been so engrossed with the practical things of life that we are only just awaking to our opportunities. When as a nation we have learned to see, our artists will find substantial recognition for their work. There will be no need to go abroad for subjects. Abundant material is at hand in our great industrial life. We are a nation of producers, we make the best steel, we raise stupendous crops, we excel in science, and the painter who cannot find pictures in our great foundries, in our colossal buildings, in our teeming cities, in our peaceful valleys will not appeal to American taste. If we have in us the development of a National School it will depend upon our powers of discrimination and artistic vision.

COLOR

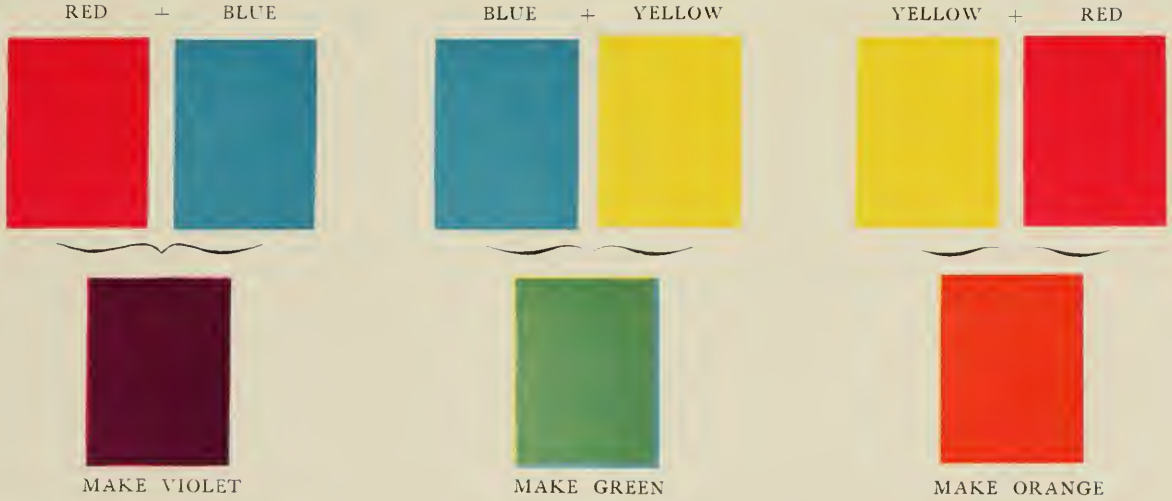
A painterlike study of nature must first of all be the intention of the pupil. The power of expression in color is certainly greater than in black and white, and the early use of color encourages and stimulates the pupil.

Let us, then, take up the brush and palette at once, and proceed to gain some practical experience with them. It is useless to bother about the technique of painting at the beginning; for, having actually taken one step, the learner will make progress in the next toward a better understanding of his medium, and so on, to a conception of his needs in the nicer processes. It is not so much the immediate skill in applying colors that we hope to acquire as the capacity for seeing and judging them rightly under varying degrees of illumination, or light and shade. The materials used by the great masters in painting were simple. We read about the relative qualities of oils, varnishes, pigments, etc., all to little profit until we can estimate the value of such discussions based upon a personal knowledge of our requirements.

In nature we have to deal with a range of hues from pure white, spoken of as a combination of all colors, to black, which is the absence of all color. Pure white is sunlight; black, absolute shadow. Direct light from the sun is painfully dazzling, and we tolerate it only when reflected. We speak of white paper, but the paper itself actually has no color. It is white light reflected from the paper to the eye that we

THE SOLAR SPECTRUM

Shows a ray of sunlight broken up into its component parts by passing it through a prism. In it are seen the six colors: Violet, Blue, Green, Yellow, Orange, Red, and all the intermediate hues.



see. A hole is referred to as a black hole, but the hole has no color, because there is no surface to reflect light. To prove that sunlight is made up of all colors, pass it through a prism, which will break it up into its component parts—violet, blue, green, yellow, orange and red. We see these colors because they are reflected to the eye. Three of these are primary colors—blue, yellow, red; and three secondary colors—violet, green, orange. Each secondary color is a combination of two primary colors—blue + red = violet; blue + yellow = green; yellow + red = orange. Blue is complementary to orange; red complementary to green; yellow complementary to violet. Red and its complementary green are said to be harmonious. So are blue and orange, and yellow and violet, for all three primary colors are present in each group.

Contrasting pure yellow with pure red suggests the lack of blue. Pure red with pure blue needs yellow, and pure blue and pure yellow require red to complete a harmony.

Black objects absorb light. White objects reflect light. As light is heat, black clothing is warmer than white, because white cloth reflects the light and heat instead of letting it penetrate to the body.

The rose absorbs into its surface both the blue and yellow rays and reflects to the eye the red ray only. A buttercup absorbs the red and the blue rays and reflects the yellow. In looking up into a cloudless sky we see only blue rays, for the red and yellow rays have been intercepted by the air on their way to the earth. To put the matter more clearly, we regard glass as transparent, but look edgewise through a piece of plate glass and it is found to be green. Glass

allows the blue and yellow rays to pass through more readily and in greater proportion than it does the red. The piece of glass must be thick enough, however, to intercept the red rays, so that the remaining yellow and blue rays only are perceived, which combined make green, and light must come through enough air for it to hold up the yellow and red rays before the eye tells you that the sky is blue.

If we dilute a color with white we make a tint. If we add black to it we produce a shade. Tints or shades of one color contrasted with tints or shades of another color, or a tint or shade contrasted with a pure color, make pleasant color harmony. North American Indians daub themselves with pure reds, blues, yellows, and the effect is startling. But civilization refines the eye and we prefer the more delicate combinations. A connoisseur will choose an antique Persian rug because it is fine in color harmony. A bright new rug will appeal to the novice as preferable, but after his eye has become cultivated he will select the one less brilliant. In some of the paintings of the old masters the colors were probably once discordant, but time and many coats of varnish have lowered the tones and made them mellow and agreeable.

Color is associated with life and warmth. As color fades it presages death. Colors are referred to as warm colors and cool colors, but any color may be made to appear warm or cool by its surroundings. Yellow and red are considered the warm colors; blue the cool color. By adding blue to yellow, green is the result. If the yellow predominates in the green it is warm; if blue, it is cool. The more blue, the cooler the green. Red and blue make violet. A red violet

CATHEDRAL, ANTWERP

"DESCENT FROM THE CROSS"

By Rubens (1577-1640)

"The best known and appreciated religious painting in the world"

is warm; a blue violet cool. But a cool violet or a cool green surrounded by a colder violet or a colder green or by pure blue appears warm by contrast.

Color as used by the artist has decided limitations. No pigment approaches the brilliancy of reflected white from a piece of paper in sunlight, and none will equal the depth of profound shadow. We are obliged to use what we can get and rely upon contrast to heighten effects. Red is intensified by green, blue by orange, yellow by violet. The gamut of color at our command seems insufficient alongside nature, but by concentration and gradation we can suggest the more vivid hues.

Modern painters have succeeded in securing effects of diffused light that were never attained by the old masters, and these later pictures indicate that a new era is dawning for the art of painting.

Light coming into the room or studio from the north—a north light—is best because it is more uniform and steady, but sunlight may be diffused by placing a screen of white muslin over the window, to be removed on cloudy days. The light should come from above the level of the eye and preferably fall on the left side, the artist, of course, standing while he works so that he may step away from his easel to accurately judge effects.

Painting in oil is to be preferred over all other mediums. The colors come in tubes ready for use. The hues required are mixed on the palette with the knife, and applied with the brush in precise and vigorous strokes.

Care should be exercised in putting on the

pigments not to overload the colors. The inexperienced are very apt to fall into this error. A solid body of color must be secured, but it is better to effect it by degrees. The highest light should be noted first, next the strongest dark; all of the other tones coming between the two, but not equal to either in mass or intensity. Much of the disappointment experienced in the use of oil colors might be saved the pupil if he would only exercise a little patience, and not daub away without purpose or meaning. When color is first applied to a smooth surface, or upon a previous painting, it does not adhere so firmly, nor is it in other respects as manageable as it will become in the progress of the work.

Whatever objections may be urged against painting as much as can be done at once, leaving as little as possible for an after-process, it is the safest method for the novice—but it must not be regarded as an ultimate aim; for, by it, the higher excellencies of color are unattainable. When he may have become, by practice, familiar with his materials and have gained insight to the peculiar character of the pigments, the student may venture more.

The unskilful are apt to imagine that richness of color is to be attained by the use of bright and glaring pigments, and bestow, with an unsparing hand, their white and yellows, reds and blues—as painful to the eye as a harsh, strident voice is to the ear. The language of Art should be gentle, eloquent and intelligible, but any painting not in accordance with a truthful representation of natural appearances cannot be good art. Our observation and study of nature, in reference to color as well as form, should be directed

toward her broad and general aspects and not the unimportant details.

It might appear that in drawing from nature, with the object before us, no more could be required than to copy what we see. This would be true if the eye were a safe and faithful guide as well as critic; but, like too many critics, however apt in the detection of error, it is not always equally ready and reliable in discovering causes of failures or supplying a remedy. The unlearned in art may discover something wrong in its representations, but it is rarely that others than the educated can positively identify the something, and suggest a means of correction.

ROYAL GALLERY, DRESDEN

"THE SMILING SASKIA"

By Rembrandt (1606-1669)

"This portrait of Rembrandt's wife is one of the finest examples of color harmony extant"

PERSPECTIVE

It is a familiar truth to every one that in pictorial representations objects remote from the point of observation should be reduced more or less in size; but it is only by the laws and principles of Perspective that these proportions can be scientifically regulated.

Perspective is the science which fixes by rules the method of representing the appearance of objects more or less distant from the eye. The principles of

Figure 1

linear perspective are few and simple, although capable of endless elaboration and application. It is the aim to make them plain to the beginner, so that he may be saved uncertainty and error in drawing at the very start—not that it will be necessary for him to make mathematical studies in perspective for ordinary objects, but to be able to apply the rules for self-criticism.

When the vision is directed to any scene in nature, it embraces all that is contained in a circle bounding a certain number of light rays which focus on the retina of the eye. The center of this circle is the point of sight, and radiating from this point the image becomes less and less distinct. As the eye moves the circular picture moves with it, the point of sight always remaining in the center. The picture we paint may be rectangular in form but it is a section taken from the circular picture that we see, but not necessarily from the middle. To further exemplify this fact, take a card with a circular opening in it four inches in diameter. Hold the card at arm's length and, looking through the opening, fix the attention upon an object on the horizon. This object is at the "point of sight"; then move the card back and forth to embrace as much of the surroundings as you care for. Next, select, with a rectangular opening, a portion of the circle for the picture.

The line of the horizon is always on a level with the eye and the "point of sight" in perspective is directly in front of you and on the horizon line. Take up your position in the middle of a perfectly straight railroad track which stretches away into the distance. (See Fig. 1.) The "vanishing point" is where the track meets the horizon and all lines running parallel with the track, the rails, the telegraph wires, the fence and the pathway on either side, converge at this point. But the lines parallel to the horizon line or those at right angles to the rails, such as the railroad ties, the cross arms on the telegraph poles, remain parallel to the picture frame and are not in perspective. Furthermore, all lines which are upright

and plumb are parallel to the sides of your picture, and, therefore, not in perspective. The vanishing point in this example is the point of sight, but the point of sight is not always a vanishing point.

The surface of the canvas on which you paint the picture is called the " perspective plane." If you trace on a piece of glass, held upright before

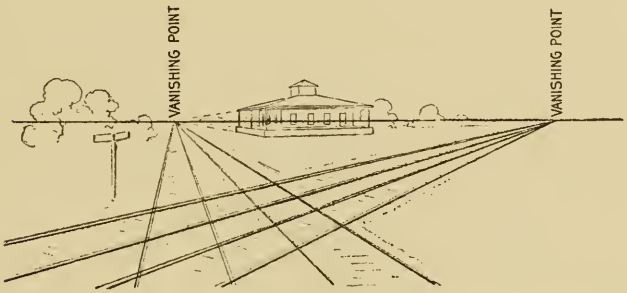


Figure 2

the eye, the railroad track, the telegraph poles, etc., you have drawn the picture on its perspective plane.

The " station point " is the eye or the point from which the picture is seen. In making a perspective drawing, the point of station and the perspective plane must always remain at a fixed distance from each other. All other points may be varied and the perspective plane may be shifted from side to side or up and down, at the pleasure of the draughtsman, to throw the point of sight higher or lower on the perspective plane or to one side or the other.

Thus far we have considered " parallel perspective." We now come to " angular or oblique

perspective." The point of sight was the vanishing point in the drawing of the railway because the rails were parallel and came together directly in front of the eye, but if we had another railroad crossing these tracks diagonally the second road would converge on the horizon at another vanishing point. (See Fig. 2.) Each set of parallel lines running in

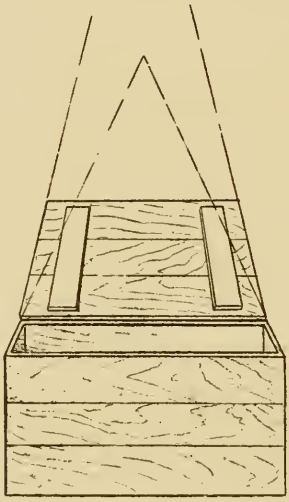


Figure 3

different directions has its own vanishing point, and there may be any number in a picture, depending upon the position of objects relative to the point of station. A vanishing point may be on the horizon line as in the case of the railway, and, again, it may be above or below the horizon or outside the picture altogether. Note the lines projected from the box lid in Fig. 3.

We will take another illustration. Standing so that the point of sight comes on a line with the hinges, and opening a door half way, we see only the edge of it. Close it part way and the lines of the upper and lower edges slant toward some point on the horizon line but to one side of the point of sight. Close the door still more and the point where the two lines converge

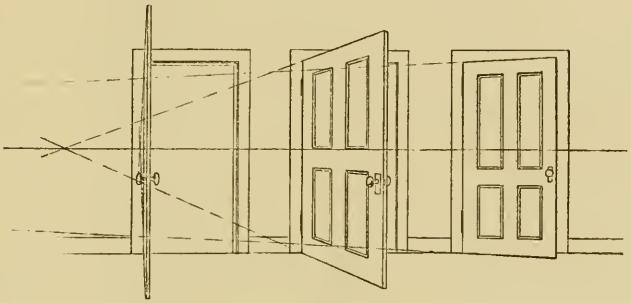


Figure 4

recedes further and further from the point of sight until when the door is actually closed it ceases to be in perspective. See Fig. 4.

Now take two doors in the same wall. Open one so that the top and bottom lines converge on the right-hand side of the point of sight, and the other door so that its lines converge at a point on the left-hand side of the picture. Here we have two vanishing points.

Next, place a rectangular table in the center of the room and parallel to the horizon line, which, of course, is imaginary indoors or when concealed by

SANTA MARIA DELLA GRAZIE, MILAN

"THE LAST SUPPER"

By Leonardo da Vinci (1452-1519)

"Before the picture was obliterated by the action of time it was regarded as the most famous painting in the world"

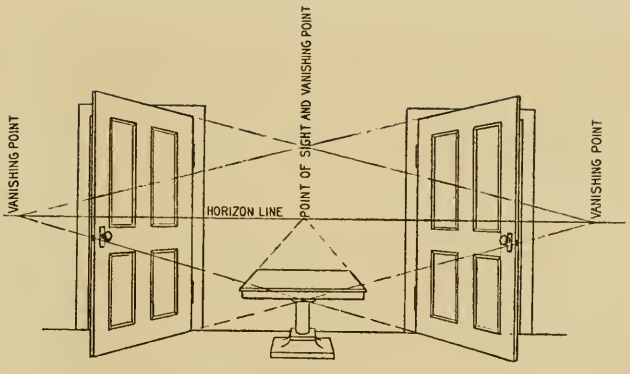


Figure 5

hills, trees, buildings or other interferences, and note that the lines from the table come together just as the railroad tracks did at the point of sight. We have here three vanishing points, one for each door and one for the table, but they are all on the horizon line. (See Fig. 5.)

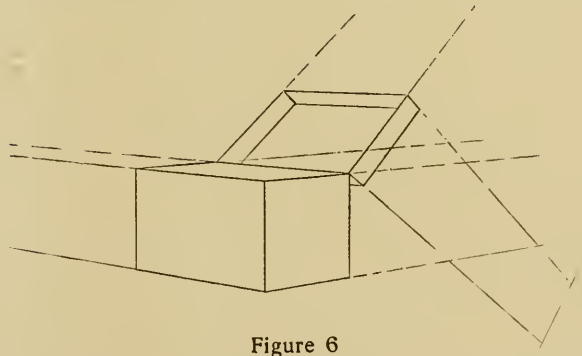


Figure 6

Open a box and the lines of the lid converge above and below the horizon line. We have four vanishing

points in this drawing, two on the horizon and two outside the picture. (See Fig 6.)

Drawing circles in perspective is on the same principle. See Fig. 7. First draw a square, in perspective, and then an oval inside it. This will be the circle in perspective.

Herein lie the elementary principles of perspective, and when they are understood will answer every requirement of the beginner. The architectural draughtsman applies these same principles in the construction of a drawing of a building from plans and elevations, not only so that it appears realistic, but the original measurements can be resolved again by reversing the calculation.

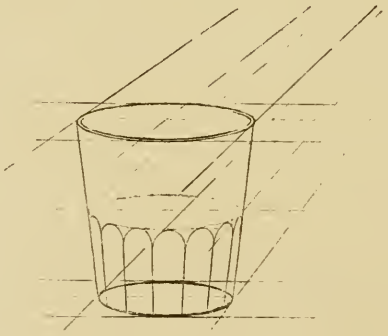


Figure 7

LIGHTS AND SHADOWS

The characteristic feature of graphic art is the representation of form and space upon a flat surface by means of light and shadow, rendered either in black and white or in color. The use of light and shade in painting dates from about the Thirteenth century, but the artists of that period rarely attempted more than the delineation of selected near-by objects.

Rembrandt, the acknowledged master of light and shade, by the disposal of graduated tones, was the first to succeed in expressing distance as well as solid form. The beginner finds light and shade so closely associated with color that it is difficult to accurately judge one irrespective of the other without some knowledge of the principles which govern their relationship.

The intensity of color depends upon light or the amount of illumination under which it is seen. Where the sunlight touches a red cloth the color is brilliant; in the shadow it appears dull, yet we know the cloth to be the same red all over. It is the difference in the intensity of the red rays which causes the color to vary in appearance.

These degrees of intensity are called the " tones " of red, of blue, of yellow or whatever color is meant, just as C natural is a tone in music. It may be in the higher octaves or in the lower, but always the note is C natural. We speak of a piece of music as pitched in a high key when it is arranged for high notes, or in a low key when arranged for the low notes. A picture painted in a high key is one where light tones prevail, and in a low key where dark tones prevail.

A night scene would be in a low key; a landscape in sunlight high in key. In a Claude Lorrain glass one sees how nature is lowered to a pitch within the possibilities of painting.

If we paint a picture altogether in light tints or altogether in dark shades we do not utilize the entire scale of tones at our disposal, or if we do not take pure white paint for our highest light, and if our lowest color note is not absolute black, the full limit of the palette has not been reached.

The key in which a picture is painted is not important, provided the proportion and relation of the lights and darks are right. While there are no rules that govern the exact amounts of light, middle tint and deep shadow which shall be used to make a picture agreeable, the artist must arrange and distribute them so as to secure a proper balance. Obscurity and heaviness are to be avoided in low-toned pictures, and to give variety to those painted in a high key restful shadows must be introduced.

Indoor effects are softer than outdoor effects because the tones melt into one another without harsh contrast. "As smoke loses itself in the air, so are the lights and shadows to pass from one to the other without any apparent separation," is a maxim attributed to Leonardo da Vinci, and it is a valuable suggestion to the pupil. Nature is not violent in her effects except on rare occasions, and when high lights are brought into contact with strong darks in a picture the contrast should be made with care and deliberate intention.

Everything, from the mountain range to the finest grain of sand, has form, revealed to the eye

PHOTOGRAPH OF SHADOW

Showing cast shadow from a light pyramid onto a light cube. Note the reflection from the light edge of cube in cast shadow on the ground. Also the variation of color from dark to light on shaded sides

by light and shadow, regardless of its color. Light and shade make a grape round, and they also give form to the cluster as a whole. Light and shade make some parts of an object appear to come forward and other parts to recede. On the sphere, the cylinder, the human figure, or upon any curved surface, shadow separates from light gradually, but on angular surfaces light and shade separate abruptly.

In considering light and shade, distinction should be made between natural shade and accidental shadow. Natural shade is the shade which is inseparably connected with every object reflecting light. Accidental shadow is the shadow which one object casts upon another object by the former being interposed between the latter and the light. An accidental shadow may be lighter or it may be darker than the object casting the shadow. If the object casting the shadow be of the same color as the object upon which the shadow falls, then the shadow itself is darker than the shaded side of the object casting it, and it is still darker if it falls on an object darker than itself. When an object casts its shadow on another object of lighter color then the shadow is lighter than the shaded side of the object casting the shadow. However, this is not an invariable rule, as shadow is also affected by reflected light.

Cast shadows do not indicate the forms of the objects casting them, but conform to the surface of the one that receives them. Without the aid of the cast shadow it is often difficult to explain or comprehend a surface. Cast shadows have well-defined edges, no matter whether the objects casting them are curved or angular. All cast shadows are darkest

PHOTOGRAPH OF SHADOW

Showing cast shadow from light cube onto light sphere. Note reflected light on dark side of sphere

when closest to the object casting them, and they are lightest when most distant from that object. The lights on objects receiving cast shadows appear brightest where they are in immediate contact with the darkest of these shadows.

These laws apply to dark as well as to light objects, but the effects are more apparent on the light ones. The brightest light on a cylinder is at some little distance from the outline on the illuminated side, and the shade is darkest at some little distance from the outline on the shaded side. The shaded side is lightened next to the outline of a cylinder or a sphere by reflected light.

The color of an object is also influenced by the color reflected upon it from some other object. An object in direct sunlight appears lighter in color than it does indoors, and the real color of an object is more easily determined in diffused light than when illuminated by direct rays. Cast shadows out of doors are really lighter than cast shadows indoors, although they may not appear so. It is contrast which gives the brilliancy of effect.

Claude Monet, the great "luminarist," who painted "trees that sway in the breeze, clouds that scud across the sky and water that ripples over the stones," invariably refused to teach. "Go to nature; paint what you see," said he to those who wanted to learn his method. "There is no trick, but I tell you paint that tower forty times, as I have done, to learn the effects of light. They are changing constantly. Monday morning the church was violet gray, in the evening a rose color, the next day blue, at one time a light mass against a darker sky, again

PHOTOGRAPH OF SHADOW

Showing cast shadow from a light cone onto a dark cylinder

a somber pile in relief with the sunset glow behind. This is my method; there is no secret."

Referring again to the bunch of grapes, we may build a picture upon the same principle. While each object is truthfully drawn in light and shade, we can go one step further in art by casting a shadow over certain parts of the composition, lowering portions in tone to bring out into relief other features of more importance, thus producing in the picture depth and the impression of distance.

As linear perspective is the science of delineating on a flat surface objects as they appear to the eye, so aerial perspective is the art of gradually eliminating details and modifying colors and light and shade as distance increases to secure the effect of atmosphere. The air intervening between us and any remote object has a very appreciable influence upon color. It softens the contrast of light and shadow and mellows hard outlines. The denser the atmosphere the more it blurs the vision, until, as in an extreme instance, a fog blots out the landscape altogether.

In high altitudes the air is clear and objects are more distinct than when seen near the surface of the earth at the sea level. Moisture arising from the ground and particles of dust that remain suspended in the air constitute minute reflecting bodies which in the aggregate interfere with perfect sight.

It is thought by some that blue, or any color tinged with it, has a retiring quality. This may be true and, if so, could be explained by the fact that pure air is in itself of a bluish tint. But it is doubtful if blue differs from other pigments to the extent that it can be called a distance color. Reds or yellows,

PHOTOGRAPH OF SHADOW

Showing cast shadows from light pyramid and dark spoon onto cylindrical box. Note difference of color in the shadows—which is due to the proximity of the objects

as well as blues, can be made to retire if the tones are properly adjusted in their relation to other colors.

The artist having a well-defined conception of what he is to do determines what method of treatment he will adopt as being suitable to his subject. For instance, in the pastoral scene we obtain repose by gentle gradations of light and color, whereas, in a battle picture, we see brilliant lights and shadows in violent contrast. The emotional influence of any treatment must be considered and the degree and arrangement of light and shade should be governed by the character of the subject.

It is a common error to make shadows too black. A simple way of testing lights and darks is by comparing a white card with the lights and a piece of black velvet with the shadows. Lights coming from several different directions in a picture are difficult to manage, and the pupil is advised for the present to confine himself to the consideration of light coming from one point only.

Tone has been explained to mean the amount of light reflected from a surface; but tone has a further significance. When the French speak of " tone," it is understood to mean quality, just as we refer to the tone of a man's " get up," his bearing, or to a musical instrument with " tone " when it is free from harshness.

In America we have come to regard tone as meaning the prevailing hue of a picture, as warm in tone, cool in tone, yellow in tone, gray in tone. A warm-toned picture is supposed to convey the sense of comfort and security; a cold-tone picture to be more suitable for a tragic episode. Green or blue lights are used in the theater when the ghost walks, but the

PHOTOGRAPH OF SHADOW

Showing cast shadow from light cylinder onto dark dish. Note reflected light on lower part of cylinder and on dish; also variation in the color of shadows

breakfast scene is flooded with warm light. Tone is not monochrome, but a combination of all colors tinged with one complexion. For instance, the rays of the sun percolating through the haze of a misty morning, cast a glow over the landscape and give it a rosy tone. On the other hand a green shade on a lamp may produce an unpleasant tone.

PHOTOGRAPH OF SHADOW

Showing cast shadow from capital of pillar onto shaft, indicating cylindrical form of shaft; also uneven surface under cornice

PHOTOGRAPH OF SHADOW

Example embodying important principles of light and shade. Note the spherical form of each grape; also form of cluster.

VALUE

The word "Value" is often misused. When applied to the art of painting, value is to be understood to mean the relative intensity of one tone compared with another tone, judged by a standard of light. The term is not used exclusively in connection with color, for values are not dependent upon colors. Tones in black and white have values as well as tones in color. Color tones always descend in value from light, the highest, to dark, the lowest, but in engravings or etchings black is sometimes given the high value and white the low. It may be that the engraver, having put more labor into his dark parts than onto the untouched portion of his plate, which prints white, estimates values upon a pecuniary basis. However, the distinction is unimportant so long as we have a predetermined unit, which in these pages will be the dark.

While a tone is a definite note in the color scale, the value of a tone depends upon its relation to other tones higher or lower than itself. We alter a color by adding lighter or darker colors to it, but we change the value of the tone by increasing or diminishing its force as compared to its surroundings, for every dark is higher in value than the next darker tone, and every light is lower in value than the next lighter tone.

The various colors differ in reflecting power. First comes pure yellow, which reflects the most light; then, in order, descending the scale—orange, green, red, blue, violet. Therefore, pure yellow has the highest value if compared with other pure colors seen under the same illumination.

"PORCELAIN"

By Mortimer Menpes

Example showing breadth of shadow and simple arrangement of lights

"PIECE IN DANGER"

By Alphonse de Neuville

Showing brilliant contrasts of lights and darks scattered through the composition to convey the impression of turbulent action

"A ROAD IN SUNSHINE"
By Corot

Example of gradations of lights and shadows to give repose to a picture

UFFIZI GALLERY, FLORENCE

"LA CENA"

By Gherardo delle Notti

Showing lights coming from different directions

In a painting each object may be given its exact local color, but realism sacrificed to harmony is art. Gradation and concentration are essential in a picture, just as the interest in a drama or a novel is brought gradually to the climax. The value of a tone is enhanced when it is supported by gradually lessening values, whereas, like values detract from one another.

A picture is made up of different planes, similar to the scenery in a theater. There is the foreground plane, the middle-distance plane, an extreme-distance plane; but the number of planes may be indefinite. All things in each plane, however, should have the values consistent. The painter of to-day accomplishes more by the adjustment of values in similar hues than the old masters did by contrasting colors. A greater delicacy and fluency of color is obtained by the modern method. To value a dark red against a dull red is more refined art than painting a blue object on a red background. One scheme results in beauty of color; the other is a matter of contrasts.

The values of tones then depend upon the relative amount of illumination they receive. It is not to be understood that a painting is made up of patches of flat tones in the way a decorator handles color. In Rembrandt's paintings, for instance, one can hardly define the area of a tone. While the dominant color in his pictures may be a luminous golden brown, by analyzing it we find the blues, reds and yellows distinct enough, but all skilfully blended together.

Sir Joshua Reynolds laid down as a principle that the chief mass of color in a picture should not be a

A STUDY IN PLANES

Example showing how a picture is made up of planes like the scenery in a theater

cold tone, but Gainsborough in his "Blue Boy" painted the figure clad entirely in blue, though when examined the blue is seen to be interspersed with warm greens and browns. The complexion of a picture by Corot may be pearly gray, but you will find that he has not obtained it by mixing a quantity of gray color upon his palette and applying it to the canvas. He gets the effect by combining several colors together with deft strokes of the brush upon the work itself.

This technique, of course, is representative of advanced painting and hardly within reach of the beginner. The pupil should first learn to see and render tones and their values in masses. The eye as it becomes trained will eventually perceive the more subtle variations. To record the difference in values between a piece of white paper lying upon white snow against a background of white stone will call forth the best efforts of the painter. But herein is the secret of his art. The degree of truth with which he translates such a detail of nature is the measure of his ability.

LINE DRAWING

With the ability to appreciate form the pupil may now turn his attention to Line Drawing. The art of line drawing and the art of " laying on " colors each has its distinctive beauty, but the two are not to be compared; both are necessary for expression.

Line drawing will not be difficult for the pupil who already writes a fair " hand," for writing is nothing more than drawing conventional forms. The pupil learning to write has a copy book containing simple exercises, which he practises diligently to acquire a facility with the pen. He progresses from elementary strokes to letters. By practice he learns to write subconsciously or without mental effort, and is enabled by means of written words to express himself intelligently. The art student, like the penman, is first introduced to the simplest objects—the cube, the sphere, the cylinder, the cone—each in turn until, ultimately, through the various stages of his course, he learns the principles of form, and, if asked to draw any one of these primary objects, he could do so from memory. Subsequently he applies this knowledge of proportion, direction, space, light and shade to the delineation of any natural object, be it a tree, a house, an animal or a human being.

The skill of the artist, of course, is much greater than that of the penman, because he has learned to perceive and execute a greater variety of forms. The writer has but twenty-six conventional letters to deal with; the artist an infinite number. The picture writings of the cliff dwellers and the drawings of some of our caricature artists are nothing more than diagrams, but

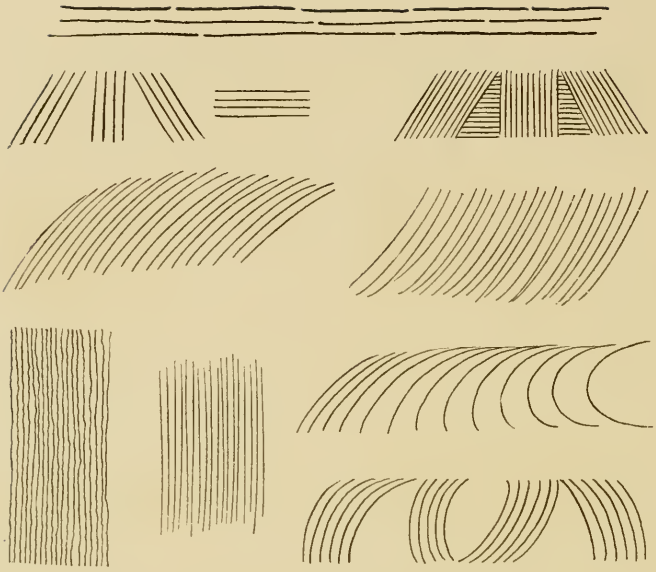
they convey their meaning. The higher phases of art are but a development of the diagram, coming closer and closer to the interpretation of individual character, until we reach the portrait painter, who produces a likeness and at the same time interprets the personality and temperament of his subject.

And so it is seen that drawing and writing are comparable, and the skill required varies only in degree. The artist is ever on the alert to acquire new characters for his alphabet, and it is by accumulating bits of knowledge here and there that he eventually secures a vocabulary with which to give his thoughts artistic expression. The greater the number of words or sentences retained in his memory the greater are his resources in the language of art.

It is not to be understood that the artist does not forget many things, and for that reason he constantly refreshes himself at the fountain of nature and verifies his work by the aid of models. But the artist is not a camera which can only record what it sees. The greatest care is necessary in study so that no imperfect impressions find lodgment in the memory to stifle and confuse the precise and definite.

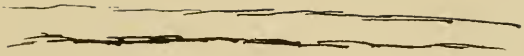
As the pen requires accuracy and precision, its use is advised for line drawing. Those who begin with the pencil in one hand and a rubber in the other, will soon find, however convenient the latter may be, that it induces carelessness, a habit that is difficult to overcome. The pencil or charcoal is each good in its place, but not in the hands of beginners.

In his first exercises the student will closely observe the beginning, direction and termination of a short straight line and then draw the line with one



SIMPLE EXERCISES IN PEN LINES

stroke of the pen. It may aid the pupil to practise on ruled letter paper. Trace the lines from left to right and from right to left, making each stroke distinct and clear. Endeavor to draw at once with confidence, not with uncertain touches, as if feeling the way. When some degree of skill is thus obtained, lay aside the guide and draw without its aid. There will be found some difficulty in making continuous lines of great length, for the hand is likely to get in the lead of the sight and stray from its proper direction. When the pen does go wrong, stop and draw the line over again. Practice until you can accurately draw horizontal, upright and oblique lines and make others parallel to them.



Ragged lines

Light and heavy lines; uneven tint

Made with the same pen

Made by double pen

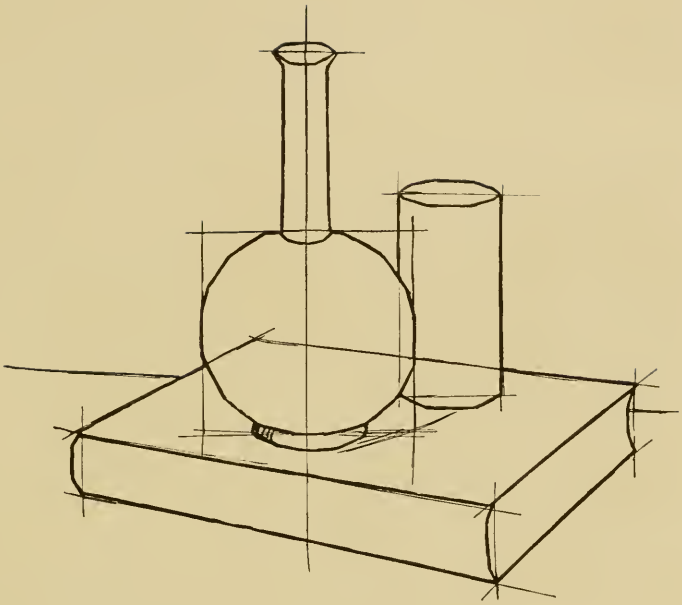
Two pens in one holder

EXAMPLES OF PENWORK TO BE AVOIDED

A number of parallel lines close together and evenly spaced make a tint, but a mixture of light lines and dark lines or thick lines and thin lines produce uneven textures. Each mass of lines should be the same color throughout and the outline of the space covered clearly defined. These flat tones can be made to express modeling and every degree of light and shadow. This is only a mechanical method of rendering tones and values, just as the painter does in color. A student should become proficient in this broad handling before he attempts graduated tints, which are not so vigorous or direct.

"THE DREAMER"

Line drawing showing extreme care in rendering details with white paper utilized to fullest extent



Blocking out the drawing in straight lines

The delineation of a curve is based upon the true perception of its variation from the straight line. The faculty of ascertaining and expressing the amount and character of the variation comes through practice. The pupil may draw one curve, but he will not find it so easy to duplicate unless he has first defined the straight line upon which to estimate the degree of curvature.

A simple way of estimating curvature is to hold the pencil or a ruler between the eye and the object to be drawn, so that it marks the beginning and the end of the deflection. The pupil should first point off spaces

Curves are estimated by their deflections from straight lines

along the lines on ruled paper, and connect these dots by curves just touching the line above.

It is to be borne in mind that a curve or circle is made up of an infinite number of straight lines unappreciable to the eye. But in drawing a curve the artist will simplify it by lengthening the straight lines and reducing them to the least possible number. That is to say, an arc in its simplest form will be two straight lines runing from each end and meeting at the center. These straight lines can be subdivided into four, eight, sixteen, thirty-two, an indefinite number, until we touch the curve at all points.

Beginners are apt to exaggerate curves and should, therefore, express them with straight lines, whenever it can be done without making a drawing look angular. In the example of the curve drawn between the ruled lines, drop from the point of contact on the upper line a perpendicular straight line to the horizontal line below. This will be the measurement of curvature, and it should be determined before projecting any curve. In the human figure there are no straight lines, but a combination of convex curved lines produced by the muscles overlapping each other. But the skilful draughtsman rarely permits himself to draw curves. He prefers straight lines as having more vigor and simplicity. What seem to be concave curves or depressions in the living human figure are where two or more convex curves meet. This is easy to de-

Hand blocked out in straight lines

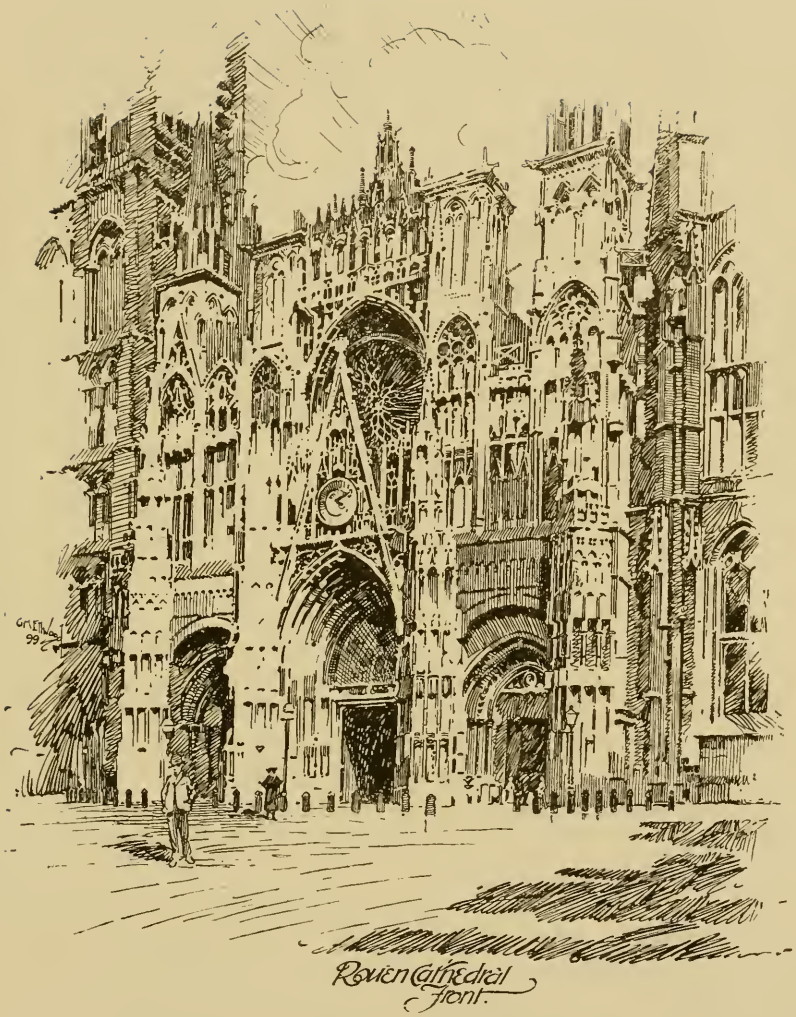
termine for oneself by looking at the hand. That which the person who has not been taught to draw thinks is a depressed curve is seen to be made up of convex curves so disposed as to give the effect of a hollow.

Many will find these primary exercises simple, but every student can profit by them. Often one has a certain aptness, though unconscious of its derivation, which will serve within limitations, but it is only by training and the right discipline of this talent that its scope of efficiency is enlarged and its measure of usefulness increased.

The artist should think out his picture and see it in his mind's eye before beginning work on it. He must have a well-defined idea of what he intends to do. If a painter, for instance, wishes to put a tree into a landscape he decides exactly what kind of a tree it shall be and makes the necessary studies for it, whereas some draughtsmen will draw the oak, the elm, the birch or the maple all alike, and make conventional foliage do duty for the African jungle as well as the Italian garden. But the artist should know that trees have individualities, just as men and women have, and that the most insignificant object demands truth in its portrayal.

After intention must come conception. By conception is not meant the creation of new forms but the reestablishment of mental images sufficiently characteristic to enable the artist to assemble them in an orderly way in relation to each other, so that they will express his idea when developed on the paper or canvas. Of course there can be no adequate conception of a thing without a thorough knowledge of its structure and detail. This intimate knowledge comes from association with it, but our impression is liable to be vague unless fixed in the memory by the art of drawing.

The conception, clear and distinct, must be ever



PEN DRAWING OF SHADOWS

present during the work. It should be so fixed that no variation or change from it will be necessary. By vacillating from one idea to another, by rearrangement or introducing afterthoughts, no great work of art is possible. Supposing an artist started a picture in bright sunlight, when everything was aglow with color, and while he kept on painting the sky became overcast and a mist rose to befog the landscape. The first work would become gradually obliterated. And to carry the absurdity still further, if the sun came out again with the artist still at his painting, the picture at the end of the day would be nothing but a patchwork of unrelated parts.

The figure painter who intends to depict some great historical event will think over the subject for months, possibly for years. He makes innumerable notes and preliminary sketches until the composition and characters become so vivid in his imagination that the empty canvas is as the completed picture to him. Every part has been considered, decided upon, all his materials, costumes and models have been selected; he is ready to begin work. With a few strokes he indicates the location of the figures; a fold of drapery falls into place, architectural features take shape, broad masses of light and shadow are indicated. The artist paints here a little, there a little, all over at once—no one part given more importance than another. The man who is his own master completes the picture with decision.

How labored the production if with every passing fancy a change had been made. The painting would never be finished. Conscientious painters never attain their ideals, but a greater degree of excellence is secured by working from an adequate conception.

In pen drawing it is a mistake to make a preliminary sketch in pencil. Rubbing out injures the surface of the paper and, if done after the pen work is finished, is likely to disturb some of the ink and a poor reproduction results. It is best to draw backgrounds first rather than the figures or principal objects, which should stand out in proper relief from their surroundings when put in, and not require working over afterward to strengthen them should they be found weak.

Examples of cross hatching

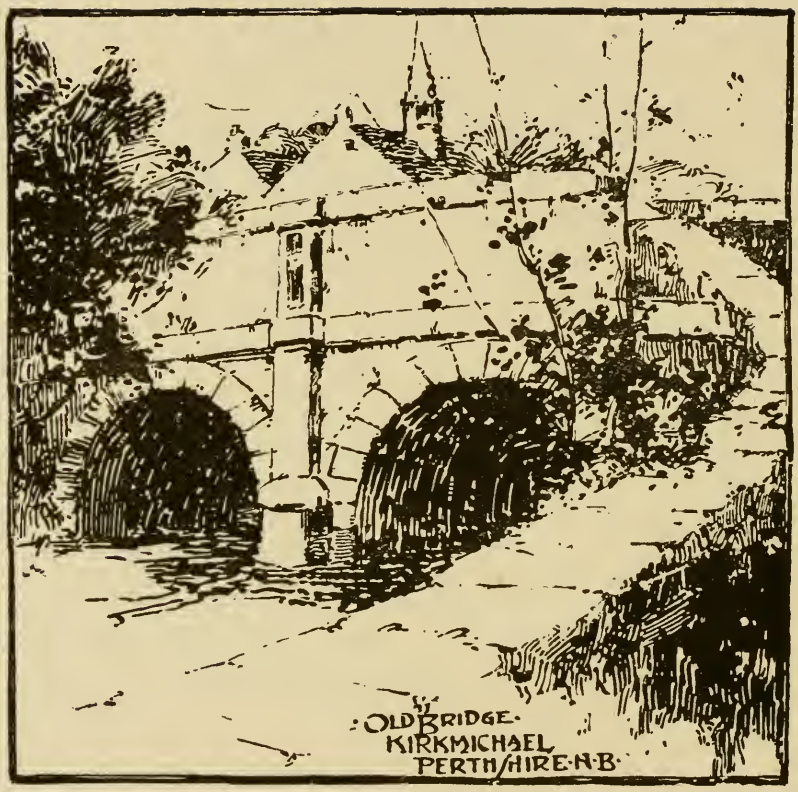
Effects secured with one set of lines are more crisp than where " cross hatching " is introduced, but when this is necessary the first lines should be allowed to dry thoroughly before crossing them with others. Do not water ink to make it grey. Each line must be pure black, the edges clean and sharp.

Strive to do work that will not need correction, but when necessary there are two ways of making alterations in a pen and ink drawing. One is to paste a piece of thin paper over the part and redraw on it. The other is to take out the portion to be done over with an eraser, rubbing lightly through a hole cut in a card, so that the edges of the rest of the drawing will be left sharp and clean. Do not use a knife; it roughens the surface of the paper.

Before beginning their drawings some artists rule faint upright and horizontal lines in blue on the paper to aid them in getting the architectural features plumb. As the blue lines do not photograph, they will

PEN DRAWING, ACTUAL SIZE

THE DRAWING ON OPPOSITE PAGE REDUCED ONE-HALF



SKETCH FROM NATURE, WITH A QUILL PEN

not show in the reproduction. Fine bristol board is the best paper for pen drawing. A grained surface may be more agreeable to work upon than a smooth one, but the lines will always come ragged when reproduced. It is unwise to use white on a drawing. After everything else has been finished, lights may be picked out with a sharp knife.

For large drawings quill pens are sometimes useful. There is nothing so pliant in skilled hands as these serviceable tools, once extremely popular with artists, and it may not be amiss to note how they are made. The quill should be scraped on the side where it is to be split, first toward the point and then backward, much or little, according to the flexibility of the nib desired, then cut off the end. Start the split with the knife and run it up with the right thumb nail. The rule for a writing-pen is to cut the shoulders the length of the split, but for drawing some variation may be necessary. The right nib, as you hold the pen, should be a little the longer of the two, to produce a delicate line.

Examine your pen lines under a magnifying glass to see if they are sound—that is, perfectly black, without rotten spots or fuzzy edges. A little care in this direction may keep your work in favor with the engraver or publisher, and it is prudent and politic to avoid putting the latter to extra expense for finishing plates made from faulty drawings.

Textures and surfaces may be expressed by the pen line—some by upright lines, others by horizontal lines. One draughtsman gets his effects by broad, coarse handling, another by fine, delicate treatment. But generally speaking, the finer lines in a drawing

recede and convey the impression of distance, while coarse strokes advance and are more suitable for foregrounds. An outline looks softer when the preliminary sketchy lines are not erased and their retention adds life and atmosphere; not necessarily do they indicate lack of knowledge.

A beginner invariably makes the mistake of striving for detail and pottering over the unimportant in a drawing because he takes pleasure in doing that which looks pretty. But such work disturbs the repose of a composition. The eye goes to detail almost as quickly as to concentrated light in a picture. In finishing a drawing there may be parts which need a few extra touches to enhance the interest, but detail should be added sparingly. Keep the work as a whole constantly in mind.

The size of a drawing for reproduction can be left to the judgment of the artist. Some make their drawings four or five times larger than the illustration is to be, but twice the size is ample. It is well to settle for all time what reduction is best suited to one's handling. Reproduced by the photo-engraving process a drawing is much refined, and a reducing lens, to be had of any dealer in optical goods, will show what this refinement will be when the drawing is brought down to the plate size.

The proportions of a drawing to fit a given space are fixed by a very simple method of measurement. Say a picture must be reduced to exactly three by five inches. Measure off this area and rule up the form with a T square, projecting a line through the two corners of this space and beyond it, and drawing upright and horizontal lines perfectly square to meet on

OUTLINE DRAWING
By F. O. C. Darley

"THE PUBLIC SCRIVENER"

By A. Casanova y Estorach

Pen drawing showing great freedom of treatment

"PAN VANQUISHED BY THE LOVES"

By Antoine Coypel

Copperplate engraving, showing effects produced by cross hatching

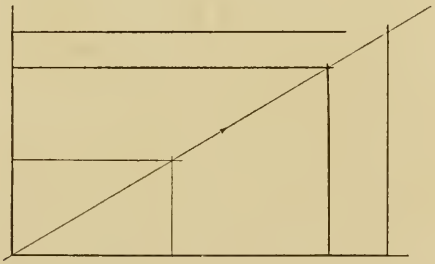
"PABLO DE SEGOVIE"

By Daniel Vierge

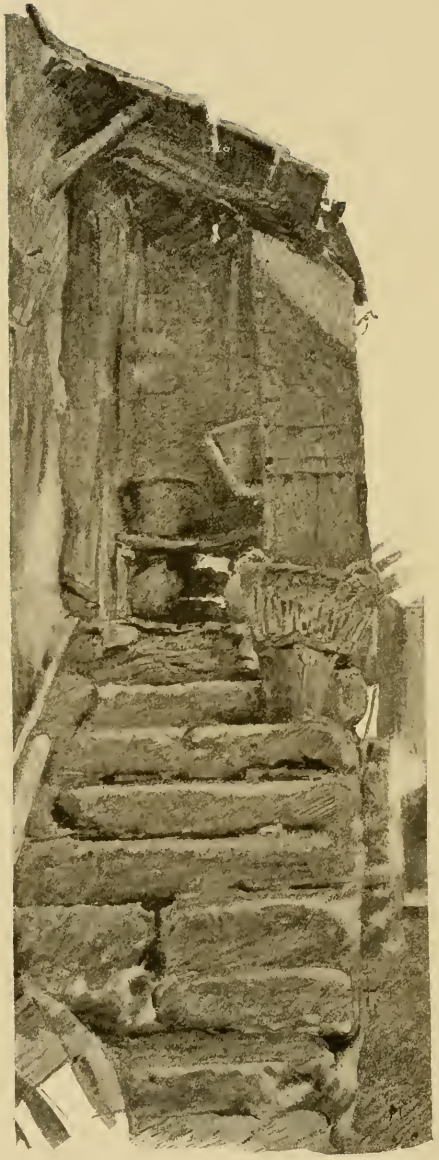
Line drawing, showing great elaboration of detail with little color

this diagonal. The larger space is then in exact proportion to the smaller area. Reverse the process and the measurement of the reduced plate will be shown.

It is well for the art student to remember that suggestion is better than elaboration. The drawing that has in it only a sufficient number of truthfully presented facts to indicate its full meaning becomes an intellectual stimulus and gives one a commensurate sense of satisfaction. For the same reason a sketch from nature may have a greater charm than more finished work. There is a saying that " It is the stuff left out and not what is put into a drawing which makes it good." In other words, leave something to the imagination. When you have told your story it is best to stop talking. As Poe remarks, " It is the epigram which is the most immediately and the most universally appreciated."



Method of enlarging or reducing the area of drawings in proportion



PENCIL SKETCH

By R. Morton Nance

SKETCHING

Drawing from nature compels the student to observe, to appreciate what he sees, and the act of drawing fixes the image clearly and permanently in his memory. As the eye becomes trained it picks out more and more unerringly the beautiful, but at first all things ought to have an interest. The student should proceed on the plan that he finds himself in a strange world where everything has the charm of novelty, and that sketches are to be considered artistic capital for future needs. Then even the ordinary utensils of daily use will have a new meaning to him. A wheelbarrow, for example, is a familiar object, but make a drawing of one from memory and compare it with an actual wheelbarrow. No further proof will be necessary to convince one that there is much to be learned even from the commonplace.

The artist looks for "picture quality" in the things about him. The grandeur of a mountain he may ignore for a bit of barnyard, or the glorious sunset for the fire in a village smithy, because he has learned to discriminate between the things that are within the range of painting and those that are not. No matter how interesting or magnificent a view may be it does not necessarily follow that it is suitable to graphic art or can be produced with the means at our disposal. This fact is not generally appreciated.

Graphic art deals with appearances, not with material truths. We know the kettle is made of copper, but to the painter a glint of light transforms it into burnished gold. The beginner who is too conscious of local color is likely to fall into error and paint what he

thinks, not what he sees. Although blades of grass are green, a field of grass may appear yellow, violet, gray or some other color.

The student should promptly learn to seek for character in the objects he undertakes to sketch. The new timbers under a wharf are probably stronger and better suited to support weight than those which they replaced, but the old ones were covered with moss and had " character "; they were picturesque and artistically superior to the new ones.

In sketching, first consider general appearances. Partially close the eyes, or squint, in order to see the masses without detail, and note the values. If this is all that you have time or opportunity to secure the sketch is worth preserving, for it will always serve as a reminder to the mental vision of something the eye has seen. The slightest memorandum may contain the happiest suggestion, and even written notes will recall to memory effects which otherwise might be forgotten.

A helpful and permissible way of getting proportions is to hold the pencil at arm's length, in line with the subject to be sketched, and run the thumb up and down on it until the distance between the end of the pencil and the thumb coincides with the space seen between two points in the model, as, for instance, the height of a door. Still keeping the arm at full length, turn the pencil around and find another measurement to equal the first, say from the edge of the door to the window. Half the height of the window is equal to the width of the door, and so on.

As there are skeletons in live creatures, so in an artistic sense there are skeletons to inanimate things.

QUICK PENCIL SKETCH TO GET VALUES

By R. Morton Nance

A landscape has its skeleton—a tree or a building. And while correctness of drawing is to be the artist's ultimate object, the surest way to secure it is by knowing the underlying principles of construction.

Facility in sketching cannot be gained by imitating another's work. If it were possible to acquire the impulse, knowledge and certainty of the master hand by copying, teaching art would be a very simple matter, but the power by which good works are produced must be sought for in adequate experience and consequent skill acquired.

Do not make your problems difficult; the complex are not the most interesting—often the reverse. A gate post may have in it sufficient variety of light and shade to claim your best attention. On the weather-beaten surface of a barn door nature may produce a symphony in color. It is for you to discover her charms and interpret them for the benefit of others. That is the mission of the artist.

As the cultivation of taste comes from association with the beautiful, familiarity with the masterpieces in art is recommended. Opportunities are open to everybody. In museums and public libraries one can see and study good pictures, and there are many books treating of art and artists which are helpful in pointing the way to self-culture. In the biographies of the old masters the student will find suggestions of practical value.

When we remember that nothing we do can be undone or effaced, it behooves the student to be deliberate, careful and serious in his work. Purposeless daubing with a brush or scratching with a pen is a step backward. Wasted time cannot be recovered,

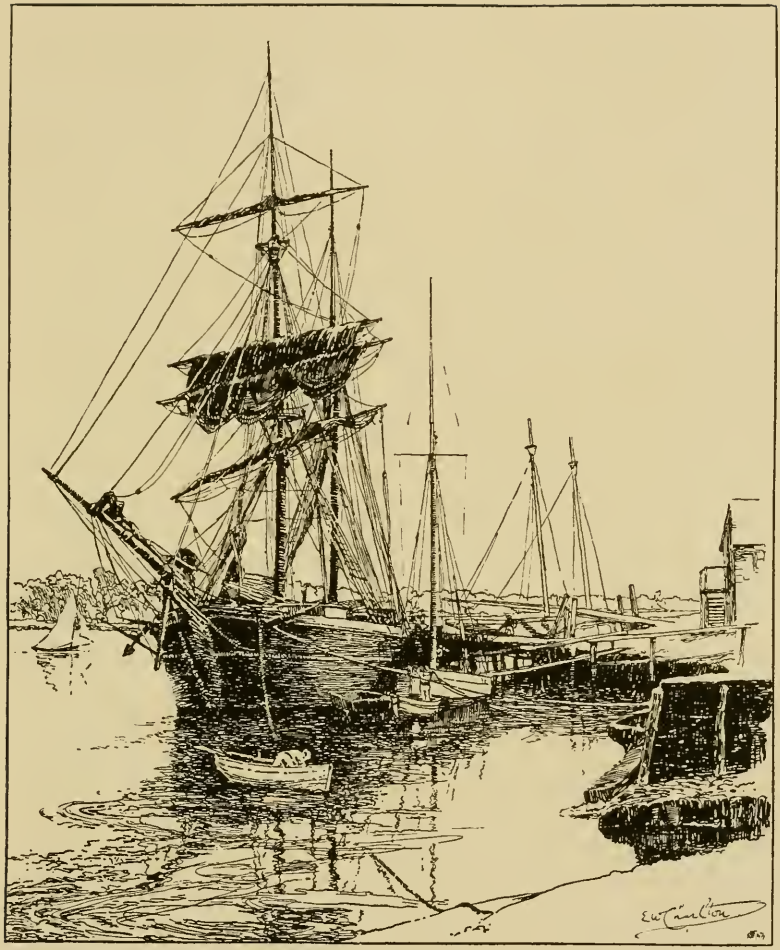
BRUSH SKETCH IN FEW LINES
By Forain

and the dissipation of energy is debasing and enervating to the faculties. Self-discipline is the hardest and at the same time the most important task that the student faces.

Sketching in water colors is not advised for the beginner, for the reason that the attention is diverted by the uncertain nature of the medium. It is usually the accidental blending of washes which makes a water color drawing interesting, but for serious study the pupil should not resort to it, at least until he knows how to paint and draw with exactness. A careful pen or pencil sketch with written descriptions of the color effects, which afterward may be translated with the oil colors or chalks, will answer every purpose.

Pastels or colored chalks are admirably suited for sketching. Rough paper is used and the colors are gently blended, or " rubbed in " with the fingers. Great care must be exercised, so that the color does not brush off, however, as there is no way of " fixing " pastels. These chalks come in every tint and shade and any one can use them without special instruction.

It is with some reluctance that instantaneous photographs are admitted to be of help to the artist, because the student is prone to place too much reliance upon them, and to forget that sure knowledge only comes in the actual drawing from nature. In the hands of one who has already learned to draw, to paint, to select, they may be resorted to as an expedient to obtain realism in figures with action, but it should be remembered that the instantaneous photograph does not satisfy the cultivated eye. There is always to be considered the postures immediately preceding and directly following the closing of the cam-



PEN DRAWING

By E. W. Charlton

The border line is put on to give quality to the sky and water

A STUDY OF WAVES

By H. Riviere

Simplest form of getting effects in color or in black and white on tinted paper

QUICK SKETCH FOR CLOUD EFFECTS

By Wilfrid Ball

SKETCH ON TINTED PAPER

By G. Gamper

The horizon line is concealed in this composition, but note that it is low, as indicated by the perspective of the house

era shutter, which the artist in his picture combines or composes to give the impression of stability, and at the same time the sense of movement.

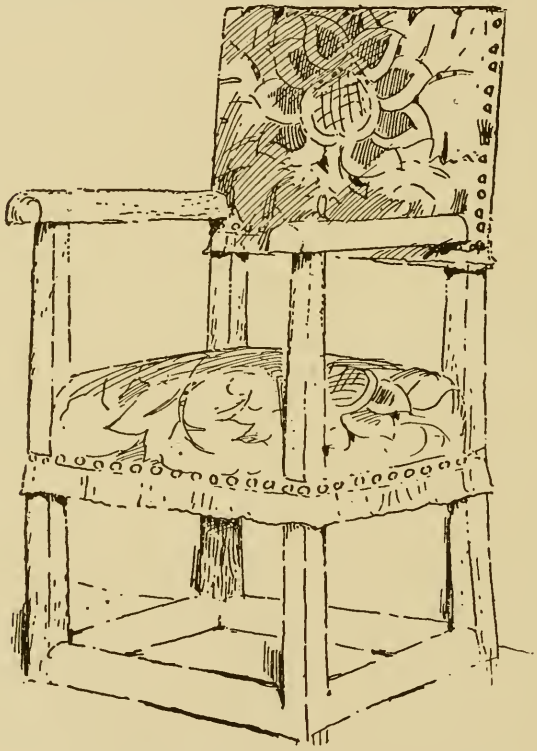
The photograph of a man walking shows one foot suspended in the air; of a horse running that he keeps one leg under him stiff and straight. But scientific facts when stated in art are to be modified to bring them into relationship with other things. There may be a temptation to copy a strikingly good photograph, and there are specious arguments to justify the practice—but although a quick lens and a quick plate are useful at times, their value to the artist is limited. In an instantaneous photograph the whirling wheels of an express locomotive look as they do in the picture taken while the engine is at rest, but a record of the billowy smoke pouring from the stack is worth getting; the characteristics could not be obtained in any other way. A photograph, therefore, is to be taken for some specific purpose.

The impression that artists pose models before commencing a picture and make servile copies of them is erroneous. The fact is, that the best drawings of figures in action are constructed without a model—from memory and afterward corrected from the model. Photographs may be utilized the same way.

The pleasure derived from looking at a picture depends somewhat upon the spontaneity with which it is produced. The musician practises scales until his hands run over the keys without error. The music is before him; he plays it readily at sight—spontaneously. So, through study, the pupil will be able to read nature at sight. By practise we also acquire the power of getting at the essence of a subject promptly,

and the advantage of a reliable method is in knowing how we did a thing, and in being able to do it again.

The freedom with which the masters in art resort to almost any medium in order to secure the record of an effect would seem extraordinary if the secret of excellence was not to be traced to higher qualifications than the dextrous management of materials. The lead pencil, chalks, charcoal, colors are all used.



PEN SKETCH OF CHAIR

COMPOSITION

The artist's intention should be apparent above all else in a picture and the arrangement of a composition be such as to make it immediately understood. To be obliged to look at one part and then at another, taking the sum total of information upon which to base a conclusion, is confusing. There should be one dominating feature, and the other incidents take their places in relation to it.

Objects thrown together haphazard will not make a picture, no more than is an incoherent jumble of sentences literature. There must be an orderly plan of procedure. The theme, the main incident, the principal figure or the climax, whatever you care to designate the fundamental idea, must be easily comprehended. For example, take the sentence, " A man is plowing in a field." Man is the substantive, plowing the predicate. Every word has a clear relationship, directly or through other words, to the principal noun or the principal predicate—that is, to the main subject, man, or to the main action, plowing. In a painting of the incident, the horse, the sky, the trees, the distance all have a qualifying relationship to the man plowing.

The size of a painting is decided upon before proceeding with the composition. Various considerations influence the artist in determining the dimensions of his canvas, but the most reliable guide is the requirements of dignity. If a man wishes to represent nature on a grand scale he should conceive in a large way and have plenty of space to work in. The portrait of a splendid figure in the fulness of power

"THE REVOLT"

By Gaston La Touche

Composition to give the effect of space and movement beyond the frame of picture

COMPOSITION OF LINES AND ANGLES

By Charpentier

"NOON; OR FLIGHT INTO EGYPT"
By Claude Lorrain
Composition of masses

CIRCULAR COMPOSITION

By Alice B. Woodward

VATICAN, ROME

THE SCHOOL OF ATHENS

By Raphael

"One of Raphael's most famous frescoes. Of the fifty-nine heads in the painting, the faces of all but four are shown"

ought not to be cramped into a small area, and a trivial subject is not exalted by making a large painting of it.

It was a principle with the old masters to show as much of a figure as possible. Almost without exception they give a complete representation of the head. Raphael's "School of Athens" contains fifty-nine heads, all but four showing the faces. Rembrandt observed the principle even more rigidly than Raphael. In his "Hundred Guilder" print there are forty figures, and every face has a history written in it. Careful design is conspicuous in the works of the old masters. Sometimes it is in the arrangement of lights. Again, it is in the beautiful interweaving of graceful lines. In some pictures we distinguish the convolutions of a scroll, and in Raphael's "Madonna of the Chair" the lines yield to the exigencies of a barrel head upon which the picture is painted.

The composition of line is based upon the principles of ornamental design, the lines returning into one another, leading the eye pleasantly from point to point. A vortex of lines within a space is a simple device in composition, either for the oval, the round or the rectangle. Another kind of composition is star-like, the lines radiating from a center.

When the architectural lines or the furniture and subordinate objects are not complete within the frame and extend beyond the limits of a picture the scheme suggests by a part a much larger whole. If the artist wishes to express the personality of a figure he will centralize the interest upon it, but when introduced incidentally it is the means of directing the eye to something more important.

PITTI PALACE, FLORENCE

"MADONNA OF THE CHAIR"

By Raphael

Painted on the head of a barrel

"HOLY FAMILY"

By Giacomo Martinetti

Composition to centralize interest

There are various ways of calling attention to a particular part of a composition: Lines pointing directly toward the object will accomplish the result; the frame of a window will compel the eye to dwell upon that which is within the space; a form may be repeated on either side of the thing to be emphasized, and when everybody in a picture is looking at an object, naturally we, also, will look at it.

If the artist takes up his station on an eminence—a hill or mountain—the horizon will be high in the picture; if he lies on the ground the horizon line in the picture will be low. By framing a portrait so that the head of a figure comes nearly to the top the individual will look like a tall man. If you leave much space over the head he becomes a short man, regardless of his actual stature. The old portrait painters used to put the horizon line knee high in their compositions and the effect was heroic.

Balance means equality of weight but not necessarily equality of volume. A small body on the long end of a steelyard will balance a large body on the short end. In picture-making a large mass on one side of a picture is balanced by a small isolated spot at the other side. A strong light on one side of a composition is balanced by a gradation of lights on the other side. A candelabrum on each end of a mantel shelf balance, but there are many ways to secure balance without resorting to duplication. A figure or an object placed exactly in the center of a canvas is balanced, but when removed to one side of the picture the impression of emptiness which would be left may be overcome by the introduction of a very insignificant detail, such as a fold of drapery.

EXAMPLE OF BALANCE IN COMPOSITION

Composition showing how a small detached object will balance a large mass

Two or more lines are in rhythm when they run the same way, but they are antagonistic when opposed to each other. Antagonistic lines are useful in establishing equilibrium. For instance, soldiers when marching in review all lean forward, but the shouldered guns slant in the other direction and counteract the effect of men falling on their faces.

The diversity of methods of composition employed by the masters of art renders it difficult to state any preference for one over another. That which has succeeded most effectively in one example may prove embarrassing to the student in working out a similar problem. Rather seek a process suited to your own peculiar needs and capacity than to force upon yourself rules which may not be adequate to the practical end, however they may be recommended by high authority.

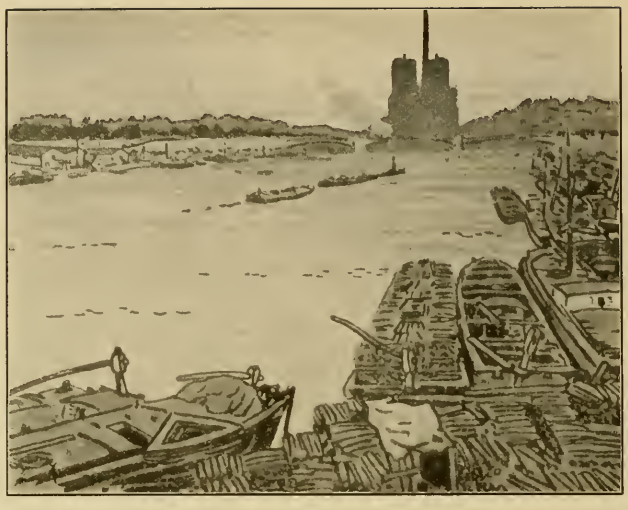
One finds in Japanese pictures a certain spontaneity which is very compelling. The designs are like fragments of song wafted to us on a vagrant breeze, tempting and promising. There is an individuality and a simplicity of composition in the art of Japan, forceful and most direct in its appeal. Even the fantastic figures are so cleverly arranged that we overlook the grotesque drawing. To be sure, the unusual is to be sought for in composition, but an apparent straining for sensational effects is to be deplored.

The highest phase in art is the expression of the imagination. Semiconsciously the innumerable impressions evolved by the memory are blended by the artist into an idea which can be said to be original, but imaginative pictures must necessarily be based upon the knowledge of natural form.

"POLISH GRENADIERS 1812"

By Edward Detaille

Composition showing antagonistic lines



Composition showing horizon line high in picture

We deal with a living world, and if an artist succeeds in giving us the essence and character of things we may be lenient about technique. There is no formula for painting; to make the pupil understand what he sees is the most that any master can hope.

It may be that one artist delights in the dextrous application of his medium; to another it is the subject which appeals, and to others it is the narrative or story-telling quality. " Style " is the expression of this individuality, and style may be acquired. But it is never to be considered as the ultimate aim. It may be taken as proof that the painter or illustrator, by hard work, has lifted himself to a position where he convinces others that the conception and production of his pictures are personal. For this reason we should not harken back to any period or to any mas-

"THE BLUE BOY"

By Gainsborough

Composition showing horizon line at height of knees

ter, but endeavor to discover new fields, new ways of getting results. Every step in the progress of art has been in unexplored territory, and if the discovered principle was worthy it has lived.

The simple and unaffected indicate greatness. The painter who is everlastingly trying to do the sublime will stumble over the little things which constitute sublimity. There is no masterly handiwork without the masterly thought behind it. There is no such thing as inspiration. Good work is premeditated, truthful, sure, and when done can be done again.

It may not be amiss to advise the pupil to carefully look after his bodily health, as any physical disturbance interferes seriously with the mental processes. Distraction caused by a disordered system will hamper and clog the mind. The brain must be in control, alert, retentive, for it often happens that an accidental stroke of the brush is suggestive, and one should be ever ready to take advantage of the unexpected and profit by experience.

In this Preparatory work we have concerned ourselves with primary exercises. Learning how to read in art terms, to spell in its symbols. It is said of Leonardo da Vinci that his dexterity was such that he could draw with both hands at the same time, but though we may not aspire to such cleverness we at least have a sure foundation upon which to build and advance our knowledge.

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